

**Factors That Affect Grade Nine Students
in Rawalpindi, Pakistan**

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Abstract

In an attempt to investigate concerns expressed by high school counselors, the researchers developed a quantitative Likert-scale questionnaire to assess the relationships among school experiences and video gaming and texting. Questions about video gaming and texting appeared with other questions about social relations, extra-curricular activities, and leisure-time activities. Two schools in Rawalpindi, Pakistan, were the focus for data collection and analysis. Complete data sets were obtained for 205 grade 9 students (95 males and 110 females), based on anonymized school records and questionnaire responses. The researchers determined Spearman rho correlations with calculations of two-tailed probability of error. Non-educational video gaming correlated with school experiences and relationships with parents and peers. Recreational texting also correlated with school experiences and relationships with parents and peers. Other interesting correlations involved other non-academic activities, peer relationships, school experiences, and self-concept. This report includes the 35 correlations assessed as moderate, fair, or good in strength, separated by gender and collated into 11 tables. The researchers recommend that school professionals advise parents and students of the potentially harmful effects of excessively playing video games and texting.

Keywords: video games, video games effects, text messaging, cell phones in the classroom, adolescence, teenagers, school performance

Introduction

We conducted the research in partnership with two schools in Rawalpindi, Pakistan. We initiated the study in response to concerns over the effects of non-educational video gaming and texting on students' school experiences. Educational professionals wanted to refer to research findings when they advised parents to monitor their children's video gaming and texting activities.

The research purpose was to examine the correlations between various factors and school experiences in grade 9. The factors included social relations (e.g., friends), extra-curricular activities (e.g., work), and leisure-time activities (e.g., playing video games and texting). This research follows a similar study conducted in Canada (see Terry & Malik, 2018, ERIC Resources Information Center No. ED583492).

Methodology

Research Participants

Complete sets of data were obtained for 205 of the grade 9 students from two schools in Rawalpindi, Pakistan (95 boys and 110 girls).

Data Collection

Academic performance data consisted of the students' final marks (percentage grades in English, mathematics, and science – biology, chemistry, and physics).

Questionnaire data consisted of the students' answers to 36 items: demographics, parental support, peer relationships, extracurricular activities, school activities, self-esteem, self-advocacy, video games, and texting. (See the Appendix.)

Data Analysis

We used Spearman rho calculations to determine the correlations.

Correlational research requires a minimum of 30 research subjects to produce statistically significant correlations. Separating the 205 grade 9 students by gender created numerically strong data sets of 95 males and 110 females, which was important in order to test the assumption that “boys play video games, but girls text” – as conveyed to us by school professionals, parents, and other adults in the general community.

The following classifications reflect the relative strength of the 35 correlations chosen for this report.

<u>coefficients</u>	<u>strength</u>	<u>predictability</u>
(+ or -) .200 to .299	limited	slight
(+ or -) .300 to .399	moderate	limited
(+ or -) .400 to .499	fair	moderate
(+ or -) .500 to .599	good	fair

Results

Several of our correlations appear to warrant further investigation of the concerns over the relationships between non-educational video gaming, texting, and school experiences. Non-educational video gaming correlated with school experiences and relationships with parents and peers. Recreational texting also correlated with school experiences and relationships with parents and peers. Other interesting correlations involved other non-academic activities, peer relationships, school experiences, and self-concept.

The following tables summarize these correlations, separated by gender.

Males

Table 1 focuses on correlations concerning the amount of time that adolescent boys spend playing video games. The number of hours spent playing video games correlates positively with feeling good while playing and feeling that video games are important. It also correlates positively with being told that they spend too much time playing video games.

Table 1. Time Spent Playing Video Games

Time Spent Playing Video Games	correlation strength	coefficient
The more hours that adolescent boys play video games . . .		
. . . the more they feel good when they play video games.	moderate	+.325 p<.01
. . . the more importance they attach to playing video games.	moderate	+.335 p<.01
. . . the more they are told that they play video games too much.	moderate	+.322 p<.01

Table 2 focuses on correlations concerning adolescent boys' positive video game experiences. Feeling that video games are important correlates positively with the number of text messages sent during school classes. It also correlates positively with feeling sleepy in school.

Table 2. Positive Video Game Experiences

Positive Video Game Experiences	correlation strength	coefficient
The more importance that adolescent boys attach to playing video games . . .		
. . . the more text messages they send during school classes.	moderate	+.306 p<.01
. . . the more they feel sleepy in school.	moderate	+.315 p<.01

Table 3 focuses on correlations concerning adolescent boys' negative video game experiences. Thinking that they spend too much time playing video games correlates positively with the time spent sending text messages. Lying about how much they play video games correlates positively with feeling that they "mess up" everything. Being told that they spend too much time playing video games correlates positively with the time spent sending text messages and the number of text messages sent during school classes.

Table 3. Negative Video Game Experiences.

Negative Video Game Experiences	correlation strength	coefficient
The more adolescent boys think they play video games too much . . . <i>texting</i> . . . the more hours they spend sending text messages.	moderate	+.355 p<.01
The more adolescent boys lie about how much time they spend playing video games . . . <i>self-concept</i> . . . the more they feel that they "mess up" everything.	moderate	+.378 p<.01
The more adolescent boys are told that they play video games too much the more hours they spend sending text messages. . . . the more text messages they send during school classes.	moderate moderate	+.349 p<.01 +.381 p<.01

Table 4 focuses on correlations concerning the amount of time that adolescent boys spend sending text messages. The number of hours spent texting correlates positively with feeling that texting is important and enjoying texting with their friends. It also correlates positively with thinking that they spend too much time texting, missing school due to texting, and being told that they spend too much time texting. The time spent texting correlates negatively with liking their teachers.

The number of text messages sent during school classes correlates positively with feeling that texting is important and enjoying texting with their friends. It also correlates positively with thinking that they spend too much time texting, missing school due to texting, lying about how much time they spend texting, and feeling sleepy in school. It correlates negatively with falling behind in their assignments.

Table 4. Time Spent Texting

Time Spent Texting	correlation strength	coefficient
The more hours that adolescent boys spend sending text messages . . .		
. . . the more importance they attach to texting.	fair	+ .306 p<.01
. . . the more they enjoy texting with their friends.	moderate	+ .499 p<.01
. . . the more they think that they text too much.	good	+ .585 p<.01
. . . the more they miss school because of texting.	moderate	+ .346 p<.01
. . . the more they are told that they text too much.	good	+ .512 p<.01
. . . the less they like their teachers.	moderate	- .314 p<.01
The more text messages that adolescent boys send during school classes . . .		
. . . the more importance they attach to texting.	moderate	+ .376 p<.01
. . . the more they enjoy texting with their friends.	fair	+ .432 p<.01
. . . the more they think that they text too much.	moderate	+ .338 p<.01
. . . the more they miss school because of texting.	moderate	+ .308 p<.01
. . . the more they lie about how much they text.	fair	+ .329 p<.01
. . . the more they feel sleepy in school.	moderate	+ .345 p<.01
. . . the less they fall behind in their assignments.	moderate	- .324 p<.01

Table 5 focuses on correlations concerning adolescent boys' positive peer relationships. Getting along with their friends correlates positively with feeling good in school.

Table 5. Positive Peer Relationships

Positive Peer Relationships	correlation strength	coefficient
The more adolescent boys feel that they are easy to get along with . . .		
. . . the more they feel good being in a classroom.	moderate	+ .301 p<.01

Table 6 focuses on correlations concerning adolescent boys' negative peer relationships. Having friends who dropped out of school correlates positively with feeling that they "mess up" everything.

Table 6. Negative Peer Relationships

Negative Peer Relationships	correlation strength	coefficient
The more adolescent boys have friends who quit school . . .		
. . . the more they feel that they "mess up" everything.	moderate	+ .300 p<.01

Females

Table 7 focuses on correlations concerning adolescent girls' positive video game experiences. Feeling good while playing video games correlates positively with being supported by their parents to do well in school. It correlates negatively with liking their teachers and working during the week.

Table 7. Positive Video Game Experiences

Positive Video Game Experiences	correlation strength	coefficient
The more adolescent girls feel good when they play video games the more they are encouraged by their parents to do well in school. . . . the less they like their teachers. . . . the less they work during the week.	moderate good moderate	+ .329 p<.01 -.548 p<.01 -.308 p<.01

Table 8 focuses on correlations concerning the amount of time that adolescent girls spend sending text messages. The number of hours spent texting correlates positively with lying about how much time they spend texting. The number of text messages sent during school classes also correlates positively with lying about how much time they spend texting.

Table 8. Time Spent Texting

Time Spent Texting	correlation strength	coefficient
The more hours that adolescent girls send text messages the more they lie about how much they text.	moderate	+ .352 p<.01
The more text messages that adolescent girls send during school classes the more they lie about much they text.	fair	+ .455 p<.01

Table 9 focuses on correlations concerning adolescent girls' negative texting experiences. Being told that they spend too much time texting correlates negatively with being supported by their parents to do well in school. Lying about how much they text correlates positively with working during the week.

Table 9. Negative Texting Experiences

Negative Texting Experiences	correlation strength	coefficient
The more adolescent girls are told that they text too much the less they are encouraged by their parents to do well in school.	moderate	-.366 p<.01
The more adolescent girls lie about how much time they spend texting the more hours they work during the week.	moderate	+.344 p<.01

Table 10 focuses on correlations concerning adolescent girls' non-academic activities other than playing video games and texting. The number of hours that they work during the week correlates positively with liking their teachers.

Table 10. Other Non-Academic Activities

Other Non-Academic Activities	correlation strength	coefficient
The more adolescent girls work during the week the more they like their teachers.	moderate	+.371 p<.01

Table 11 focuses on correlations concerning adolescent girls' negative peer relationships. Having friends who dropped out of school correlates negatively with liking their teachers and having teachers say they have a good attitude in school.

Being afraid of rejection by their friends correlates positively with having teachers say they have a good attitude in school.

Table 11. Negative Peer Relationships

Negative Peer Relationships	correlation strength	coefficient
The more adolescent girls have friends who quit school the less they like their teachers. . . . the less they are told by teachers that they have a good attitude toward school.	moderate moderate	-.317 p<.01 -.301 p<.01
The more adolescent girls fear being rejected by their friends the more they are told by teachers that they have a good attitude toward school.	moderate	+.311 p<.01

Discussion

For this report, we chose to focus only on the correlations with moderate, fair, and good strength (.300-.399, .400-.499, .500-.599), because these correlations have limited, moderate, and fair levels of predictability. We omitted the slight and mild correlations (.100-.199, .200-.299), even though several mild correlations had $p < .05$ statistical significance, because we assessed these correlations as having no predictability. Given our large sample of male and female research participants, we are confident that the correlations in this report describe the behaviors of these students and may be considered generalizable to comparable grade 9 students in Rawalpindi, Pakistan.

APPENDIX

FACTORS THAT AFFECT ACADEMIC PERFORMANCE IN GRADE NINE

*Unless otherwise indicated, 1 means that you strongly disagree.
 2 means that you disagree.
 3 means that you agree.
 4 means that you strongly agree.*

Section One

I am: 1 - male 2 - female	1 2
My parents encourage me to do well in school.	1 2 3 4
I live at home with my parent(s) or guardian(s): 1 - no 2 - yes	1 2 <input type="checkbox"/>
How old are you?	
What language(s) do you speak at home?	
How long have you lived in Canada? 1 - less than 5 years 2 - more than 5 years 3 - all my life	1 2 3

Section Two

I think that I am easy to get along with.	1 2 3 4
Several of my friends quit school.	1 2 3 4

Section Three

There should be a video game club in school.	1 2 3 4
I have a busy life outside of school.	1 2 3 4
I like other activities more than school classes.	1 2 3 4
I play sports frequently.	1 2 3 4
I play video games every day: 1 - no 2 - 1 or 2 hrs 3 - 3 or 4 hrs 4 - 5 or 6 hrs	1 2 3 4
I text with my friends every day: 1 - no 2 - 1 or 2 hrs 3 - 3 or 4 hrs 4 - 5 or 6 hrs	1 2 3 4
I work during the week: 1 - no 2 - 4 hrs 3 - 8 hrs 4 - 16 hrs <input type="checkbox"/>	1 2 3 4

Section Four

I feel good being in a classroom.	1 2 3 4
I like most my teachers.	1 2 3 4
I feel sleepy during classes.	1 2 3 4
I do not keep up with my assignments.	1 2 3 4

Teachers say I have a good attitude.	1 2 3 4
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I text with my friends during classes: 1 - no 2 - 1-5 texts a day 3 - 6-10 texts a day 4 - more than 10 texts a day	1 2 3 4
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Section Five

Playing video games makes me feel good.	1 2 3 4
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Texting is important in my life.	1 2 3 4
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The music I like best is: 1 - hip hop 2 - metal 3 - pop 4 - country	1 2 3 4
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I enjoy texting with my friends.	1 2 3 4
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Video games are important in my life.	1 2 3 4
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Section Six

I am inspired by: 1 - Adam Beach 3 - Jordin Tootoo 2 - Miley Cyrus 4 - Justin Trudeau	1 2 3 4
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Most people around me seem happier than me.	1 2 3 4
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I mess up everything I do.	1 2 3 4
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I am afraid of being rejected by my friends.	1 2 3 4
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I feel really hurt when I am criticized.	1 2 3 4
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I want to be: 1 - I 'm not sure 3 - a hockey player 2 - a plumber 4 - a singer or musician	1 2 3 4
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Section Seven

I think I play video games too much.	1 2 3 4
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I have missed school because I played video games.	1 2 3 4
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I lie about how much I play video games.	1 2 3 4
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I have been told that I play video games too much.	1 2 3 4
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Section Eight

I think I spend too much time texting.	1 2 3 4
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I have missed school due to texting.	1 2 3 4
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I lie about how much time I spend texting.	1 2 3 4
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I have been told that I spend too much time texting.	1 2 3 4
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